

Appendix

to

Patent Application

for

METHODS AND APPARATUS FOR ENTERPRISE APPLICATION INTEGRATION

XML Specification for Defining Marketing Framework Components
 April 11, 2001 – Draft, v0.5

access to a particular pipe, it is assumed that the user is authorized and authenticated through all of the operations of a pipe.

A selector is passed the name of the desired functional module and the name of the organization. The module name is also the name of the XML document containing the structure of the page to be rendered.

The XML document follows the structure of the page, like so:

```
<xml>
<module>
  (This section describes the name, organization, & logo information for this module)

  <section>
    (This section describes any menus or button bars that appear in the page header)
  </section>

  <sub_section>
    (This section describes any button bars, drop down list selectors, combo box selectors,
    data entry fields)
  </sub_section>

  <content>
    (This section describes any user interface components required for the content portion of
    the page. This can include all of the user interface elements described previously, plus
    any applets, flash movies or other multimedia elements as required.)
  </content>

  <toolbar>
    (This section describes any selectors, checkboxes, button bars, drop down list selectors,
    combo box selectors, or data entry fields required.)
  </toolbar>

</module>
```

Where possible, we have tried to use pre-existing standards for interface definition, rather than making up our own. Consequently, please refer to the following two documents located at the following URLs to get a flavor of the philosophy behind this structure:

| | |
|---|---|
| <i>XUL Tutorial</i> | http://www.xulplanet.com/tutorials/xultu/ |
| <i>XUL Programmer's Reference Manual</i> | http://www.mozilla.org/xpfe/xulref/ |

An example of this XML file structure, describing the NetCensus General Traffic Statistics page shown on page one of this specification is included on the next page. Although this description only describes the module, section, sub-section, and toolbar portions of the page, it should be enough to provide a flavor of how to define a page for use in the Marketing Framework. This file would be generated by an XSP script running in response to a user requesting a specific URI from a Cocoon server.

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XML Specification for Defining Marketing Framework Components

April 11, 2001 - Draft, v0.5

```

<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XML Spy v3.5 NT (http://www.xmlspy.com) by H. M. Kaufman (Centerville Technologies/Engineering) -->
<module name="NetCensus" sonified="yes">
  <section>
    <menu name="main" prompt="SELECT A SECTION">
      <menuitem name="General Site Traffic" value="http://think.with-us.com/hc/traffic"/>
      <menuitem name="Database Statistics" value="http://think.with-us.com/hc/statistics"/>
      <menuitem name="Marketing Performance" value="http://think.with-us.com/hc/performance"/>
      <menuitem name="Commercial Investment" value="http://think.with-us.com/hc/investment"/>
      <menuitem name="Purchase Pathway" value="http://think.with-us.com/hc/pathway"/>
    </menu>
  </section>
  <sub_section name="General Site Traffic">
    <selector name="site_name" method="post" action="">
      <list name="SITES" prompt="SELECT A SITE">
        <listitem name="SALES SITES" value="10"/>
        <listitem name="- Main Portal" value="11"/>
        <listitem name="- Portal US" value="12"/>
        <listitem name="- Portal Europe" value="13"/>
        <listitem name="- Portal Asia" value="14"/>
        <listitem name="- Business" value="15"/>
        <listitem name="- Leisure" value="16"/>
        <listitem name="- MCC" value="17"/>
        <listitem name="- Cafe Express" value="18"/>
        <listitem name="HOTEL SITES" value="20"/>
        <listitem name="- Aberdeen" value="21"/>
        <listitem name="- Birmingham" value="22"/>
        <listitem name="- Kent" value="23"/>
        <listitem name="- London" value="24"/>
      </list>
      <date_picker name="FROM" class="date" action="select"/>
      <date_picker name="UNTIL" class="date" action="select"/>
      <button name="go" prompt="go" action="submit"/>
    </selector>
  </sub_section>
  <content>
    <panel width="64%">
      <line>
        <checkbox label="Page Views :" value="1843"/>
        <checkbox label="Home Page views :" value="1843"/>
      </line>
      <line>
        <checkbox label="Number of Visitors :" value="1843"/>
        <checkbox label="No. of Visitors per day :" value="1843"/>
      </line>
      <line>
        <checkbox label="New Visitors :" value="1843"/>
        <checkbox label="Length of Time on site :" value="1843"/>
      </line>
      <line>
        <checkbox label="Repeat Visitors :" value="1843"/>
        <checkbox label="Average no. of pages visited :" value="1843"/>
      </line>
      <table title="Most Popular Pages" type="numbered">
        <checkbox label="Millennium Deals" value="1843"/>
        <checkbox label="Stay.with.us - Hotel View" value="1843"/>
        <checkbox label="Make a Booking" value="1843"/>
        <checkbox label="Picture Gallery" value="1843"/>
      </table>
      <table title="Top Referring Sites" type="numbered">
        <checkbox label="LondonTown.com" value="1843"/>
        <checkbox label="Thomas Cook" value="1843"/>
        <checkbox label="Sony.com" value="1843"/>
      </table>
    </panel>
    <panel width="36%">This is panel two (graph goes here)
  </panel>
</content>

```

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XML Specification for Defining Marketing Framework Components

April 11, 2001 – Draft, v0.5

```
<toolbar name="exportBar" prompt="export to >>">
  <tool name="excelExport" label="EXCEL" action="doExcelExport" tip="Export this data to an MS Excel file"/>
  <tool name="pPointExport" label="POWERPOINT" action="doPPointExport" tip="Export this data as a PowerPoint presentation"/>
  <tool name="wordExport" label="WORD" action="doWordExport" tip="Export this data to an MS Word file"/>
  <tool name="jpegExport" label="JPEG" action="doJpegExport" tip="Export this data as a JPEG image"/>
  <button name="printGraph" label="PRINT" action="doPrintGraph" tip="Print a copy of the graph"/>
</toolbar>
</module>
```

Section & Tag Descriptions

<module name=" *text.display*" sonified=" *yes.or.no*">

The <module> section of the file is used to hold any information about the pipeline that may be required throughout the life of the document as it moves through the pipeline. This tag takes a single attribute, which is the name of the module to display. The sonification attribute is used to invoke the built-in Beatnik sounds for buttons, checkboxes, and tool bars. To date, we have defined the following tags:

<organization>

Specifies the name of this company (and it's associated stylesheet).

<logo location=" *text.uri or file name*" />

Specifies where the company's logo can be found, in either gif, jpeg, or png format.

<section>

The <section> portion of the file is used to hold any information about the content that needs to appear at the immediate top of the page. Typically, this will include one or more menus or button bars, from which the user will make a section that will cause other portions of the page to load. To date, we have defined the following tags:

<menu name=" *text*" prompt=" *text.display*">

Indicates that a menu should appear in the first available position in the section. This tag and its associated sub-tags describe the format of the menu to be displayed. (Typically these will appear as DHTML drop-down menus.) The structure of this tag is loosely based on the XUL standard for describing menu objects, although it is a subset of the specification, since many of the attributes do not make sense in the context of our application.

| | |
|-------------|--|
| name | Name of menu object (for use with DHTML) |
|-------------|--|

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XML Specification for Defining Marketing Framework Components
 April 11, 2001 – Draft, v0.5

prompt Prompt text that appears in the user interface followed by a down arrow indicating where the user should click.

<menuitem name=" text.display" value=" uri.destination ">

Indicates that an item should appear in the parent menu. This tag and its associated properties describe the format of the item to be displayed in the menu.

name Contains text to be displayed for this item in the drop down menu.
value URI of the web page to display if the user selects this menu item.

<sub_section name=" text.display ">

The <sub_section> portion of the file is used to hold any information about the content that needs to appear in the zone at the lower part of the top of the page. Typically, this will include one or more menus or button bars, or various "selector" interface widgets to allow the user to be able to search a database or otherwise modify what is displayed in the content section of the page. This tag takes a single property, the name of the sub-section, which is formatted and displayed as a title in the sub-section area of the page. To date, we have defined the following tags:

<selector name=" text " method=" text.method " action=" javascript.function ">

Indicates that a form is to be inserted here to allow a user to make choices that will adjust the contents of another section of the application. The selector tag marks the demarcation points for the form, and any widgets that will have their values submitted to the server when the user clicks on the submit button.

name Name of the form object, which is required in order to manipulate the form via JavaScript / DHTML
method Text that indicates the method for handling the HTML form data.
action Can be used to invoke a JavaScript / DHTML routine when the user submits this form.

<button name=" text " prompt=" text.display " action=" text ">

Indicates that a button widget with a text label should be displayed in the first available position within the selector to allow a user to perform some action to the selector.

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XML Specification for Defining Marketing Framework Components
 April 11, 2001 – Draft, v0.5

| | |
|---------------|--|
| name | Name of button object (<i>required so list box contents can be accessed via JavaScript / DHTML</i>). |
| prompt | Text that displays as a prompt on the face of the button. |
| action | Text that is filled in as the HTML button type. |

<date_picker name=" text " prompt=" text.display ">

Indicates that a single date widget should be displayed in the first available position with in the selector. A date widget allows the user to be able to specify a date in the form of MM/DD/YYYY, where "MM" is equal to the two digit value for the month of the year, while "DD" is equal to the two digit value for the day of the month, while "YYYY" is equal to the four digit value for the century.

| | |
|---------------|--|
| name | Name of date_picker object (<i>required so list box contents can be accessed via JavaScript / DHTML</i>). The individual fields in the widget will be accessible as name.mm for the month name.dd for the day, and name.yyyy for the year. |
| prompt | Text that displays as a prompt directly to the left of the list box widget. |

<list name=" text " prompt=" text.display ">

Indicates that either a single list box widget should be displayed in the first available position with in the sub-section to allow a user to put together a query to modify the specific contents of the content section of the page.

| | |
|---------------|--|
| name | Name of list object (<i>required so list box contents can be accessed via JavaScript / DHTML</i>). |
| prompt | Text that displays as a prompt directly to the left of the list box widget. |

<listitem name=" text.display " value=" text.value ">

Indicates that an item should appear in the list box widget. This tag and its associated properties describe the format of the item to be displayed in the menu.

| | |
|--------------|--|
| name | Contains text to be displayed for this item in the list box widget. |
| value | Text with value information (either alpha or numeric) that will be passed via a form submit. |

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XML Specification for Defining Marketing Framework Components
 April 11, 2001 – Draft, v0.5

<content>

The <content> portion of the file is used to hold any information about the content that needs to appear in the zone directly in the middle of the page. This can be defined in a variety of ways to reflect a number of different display formats. This section can either be rendered as a single entity, or broken down into a series of vertical "panels". Within a panel, additional content can be specified using either <line> or <table> tags (*more information on this is available on the following pages*). A good way to think about this structure is to consider it as being very similar to HTML tables where panels are equivalent to columns, and windows are equivalent to rows. However, this metaphor is not completely accurate, as we encapsulate the row data within a column, where in an HTML table the column data is encapsulated within the row data. This was changed for two reasons: the first was for easier processing within the XSLT engine; while the second had to do with how we were expecting data to be handled within the system.

<graph>

Indicates that the content contained within this tag should be rendered as a graph using the XSLT SVG graphing stylesheet.

<panel width=" number.percentage " >

Indicates that a vertical panel should be created in the content section of the page. Panels act as a way to organize content that should be located together on the page.

| | |
|--------------|---|
| width | Number used as a percentage of the width of the browser window. Using a percentage allows us to rescale the relationship between individual objects within the page. Please note that the total width of all panels must not exceed 100%, as there is no error checking within the XSLT style sheet.. |
|--------------|---|

<line>

Indicates that the content contained within this tag should be rendered as being on a single line, either inside of a panel, or simply within the entire content section of the page. Small lines of text, and selectors can be specified inside of <line> tags, and these will be rendered as a single line of content – similar in function and look and feel to a toolbar. Within a set of <line> tags, it is possible to specify the following tags:

<chart_picker name=" text " prompt=" text.display " target=" "chart.name">

Indicates that a single chart type selection widget should be displayed in the first available position within the line. A chart type selection widget allows the user to be able to specify the plot format of the chart named in the target property for the tag.

| | |
|-------------|------------------------------|
| name | Name of chart_picker object. |
|-------------|------------------------------|

Company Confidential – Centerville Technologies, Inc.

XML Specification for Defining Marketing Framework Components
 April 11, 2001 – Draft, v0.5

| | |
|---------------|---|
| prompt | Text that displays as a prompt directly to the left of the chart picker selection widget. |
| target | Name of the chart that this picker is associated with. |

<data prompt=" text.display " type=" data.type " class=" class.type ">

Indicates that a single piece of data should be displayed in the first available position within the line. The format of the data is specified using both the type and class attributes as described below:

| | |
|---------------|---|
| prompt | Text to display to the left of the data as an explanatory label. |
| type | Can be one of three values: NUMBER, TEXT, or PERCENT. Specifying TEXT forces the prompt and the data to have the same amount of display space. Specifying either NUMBER or PERCENT causes the data to be displayed with the prompt taking up about 80% of the space, and the DATA taking up about 20% of the display space. |
| class | Can be specified as either MAJOR or MINOR. MAJOR data is rendered in bold and in a slightly larger type than MINOR data elements. |

<text>

Used to render small amounts of text within the context of a set of <line> tags, or can be used by itself to render text either in a <panel> or simply stand-alone in the content section.

<table title=" text.display " type=" type.table ">

Indicates that the content contained within this tag should be rendered in the form of a table, either inside of a panel, or simply within the entire content section of the page. Tables currently come in only two types – numbered and unnumbered. A numbered table generates a list of entries with a number in front of each one, while an unnumbered table generates them as a bulleted list.

| | |
|--------------|--|
| title | Text to display as the title of the table. This text is handled differently depending on the XSLT and CSS style sheets used to create the final HTML document. |
| type | Determines how content is formatted within the table. Currently this attribute only supports two values: numbered, which creates a numbered list of items; and unnumbered which creates a bulleted list. |

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XML Specification for Defining Marketing Framework Components
 April 11, 2001 – Draft, v0.5

<toolbar name=" text " prompt=" text.prompt ">

The <toolbar> portion of the file is used to hold any information about the toolbar that runs along the bottom of the page. This can be defined in two ways – there are a series of selections (*a.k.a.* "tools") that can be made from the solid colored section in the middle of the bar, and typically these selections will all be related to each other and would directly affect the content in the content pane. Because of this, typically the targets of the individual toolbar elements will probably be references to JavaScript / DHTML routines embedded in the page. On the right section of the toolbar are a series of buttons that can be used to start external events, such as sending a copy of the web page to a printer.

The components in the toolbar are always rendered as text links without decoration that can be clicked on to initiate an action.

| | |
|---------------|--|
| name | Name of toolbar object (for use with DHTML) |
| prompt | Prompt text that appears in the toolbar to the left of the selections. |

<button name=" text " label=" text.display " action=" text " tip=" text ">

Indicates that a link with a text label should be displayed in the first available position on the right side of the toolbar to allow a user to perform some action that affects the page as a whole.

| | |
|---------------|--|
| name | Name of button object (<i>required so list box contents can be accessed via JavaScript / DHTML</i>). |
| label | Text that displays as a prompt on the face of the toolbar. |
| action | Text that is used as the destination for an associated HREF tag. |
| tip | Text that appears as a "tool tip" when the user leaves the cursor over the link for more than a couple of seconds. |

<tool name=" text " label=" text.display " action=" text " tip=" text ">

Indicates that a link with a text label should be displayed in the first available position with in the middle of the toolbar to allow a user to perform some action related to the content in the content section.

| | |
|---------------|--|
| name | Name of button object (<i>required so list box contents can be accessed via JavaScript / DHTML</i>). |
| label | Text that displays as a prompt on the face of the toolbar. |
| action | Text that is used as the destination for an associated HREF tag. |

Company Confidential – Centerville Technologies, Inc.

XML Specification for Defining Marketing Framework Components
April 11, 2001 – Draft, v0.5

tip

Text that appears as a "tool tip" when the user leaves the cursor over the link for more than a couple of seconds.

<T.B.D.>

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